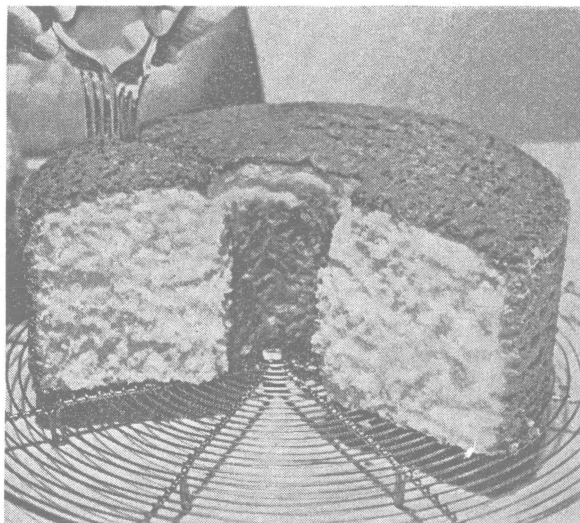


Cakes and Cookies



By

OSEE HUGHES

*Foods and Nutrition Division, School of Home Economics
The Ohio State University*

Contents

Proportion of ingredients.....	3	Miscellaneous mixtures	3
Measurements	3	Doughnuts	3
Symbols for measurements.....	5	Sour cream doughnuts	3
Table of common measurements.....	5	Potato doughnuts	3
Kinds of ingredients.....	5	Cream puffs	3
Equipment for mixing and baking cakes. .	9		
Oven temperatures	12	CAKES	
Baking tests	14	Butter cakes	3
Processes used in making cakes	14	Quick mixer cake.....	3
General procedure for making cakes.....	15	Plain standard cake	3
		Upside-down cake	3
COOKIES		White cake	3
Roll cookies	16	Fudge cake	3
Sugar cookies	16	Chocolate cake	3
Rich butter cookies.....	17	Devil's food cake.....	3
Sand tarts	17	Brown sugar cake.....	3
Molasses cookies	17	Spice cake	3
Honey cookies	17	Prune cake	3
Filled cookies	18	Dark fruit cake.....	3
		White fruit cake	3
Drop cookies	19	Honey pound cake.....	3
Rocks	19	Caramel cake	3
Boston fruit cookies.....	19	Sour cream cake.....	3
Ginger cookies	19	Sponge cakes	3
Sour cream cookies.....	20	Angel food cake.....	3
Chocolate drop cookies.....	20	Sponge cake	3
		Modified sponge cake.....	3
Ice box or sliced cookies.....	20	Frostings	3
Plain ice box cookies.....	21	Boiled frosting	3
Butterscotch cookies	21	Marshmallow frosting	3
		Seven minute frosting.....	3
Cooky bars	22	Caramelized sugar frosting.....	3
Fruit cake squares.....	22	Chocolate 7-minute frosting.....	3
Date bars	22	Twice cooked frosting.....	3
Brownies No. 1.....	22	Fudge frosting	3
Brownies No. 2.....	22	Caramel frosting	3
Lebkuchen	23	Chocolate butter frosting.....	3
Blitz kuchen	23	Orange butter frosting.....	3
Honey date bars.....	24	Steps in decorating a cake.....	3

Acknowledgment

The Agricultural Extension Service of Ohio State University is indebted to the following firms for illustrations used in this bulletin:

General Foods Corporation, Consumer Service Department, New York City, Figures 6, and 10 to 18 inclusive; also cover page illustration.

Royal Baking Powder Company, New York City, the 10 illustrations on pages 38
"Steps in Decorating a Cake."

Cakes and Cookies

THE baking of cakes is quite possible for even the beginner, although in general a more skillful manipulation is necessary for cakes than for other flour mixtures in order to produce a product of fine grain, even texture, and soft velvety crumb. Cookies are simpler to make than cake, and may well be chosen as a starting point in the making of cake by the inexperienced person.

It is important at the outset for the worker to become acquainted with some of the points which have to do with success, or lack of it, in the baking of cakes.

PROPORTIONS OF INGREDIENTS

While some variation is possible in the majority of recipes, fairly fixed proportions exist for practically all doughs and batters, in order to obtain products which are typical of the kind.

The beginner will do well to choose recipes which have been well tested by more experienced people. She will do no experimenting, for example, with enriching her cake by putting in more fat until she knows more about mixtures and can better judge how much more fat her recipe could stand without producing undesirable results.

MEASUREMENTS

If proportions which yield good baked products of various types are somewhat fixed, the importance of accurate measurements is obvious. It is also obvious that the same proportions should be maintained each time a given recipe is used if uniform results are to be expected. The woman who has excellent results in her baking, while seeming to disregard accurate measurements, is skilled in "eye measurements." That is, she is fairly successful in judging the size of a mass of fat, or in estimating whether the flour reaches the same height in a particular bowl as on a previous day when her cake was excellent. She has also learned by experience to judge consistencies and the appearance which results from sufficient mixing.

The smaller the recipe the more exacting the necessity for accuracy in measurements. A small error becomes a large percentage of error if the quantities of ingredients called for are small.

Measuring Equipment

The standard measuring cup is of $\frac{1}{2}$ -pint or 8-ounce capacity. Cups now be had which are based on United States standards, and are so labeled. Subdivisions are marked on the cup for measuring one-fourth, one-half, three-fourths, one-third, and two-thirds cup. The majority of cups do not show smaller subdivisions.

Individual cups for fractional measurements as well as full cup measurements are also available. The fractional cups, if standardized, permit more accurate measurements than can be obtained in the cup with subdivisions.

Measuring spoons are not so well standardized as some cups are. A set of spoons which measure 1 tablespoon, 1 teaspoon, $\frac{1}{2}$ and $\frac{1}{4}$ teaspoon can be obtained. Probably all spoons, whether bought separately or in sets, should be checked against a standard cup. Sixteen tablespoonfuls are required to fill 1 cup, and 3 teaspoons are equal to 1 tablespoon.

How to Measure

Granting that accurate measuring equipment is available, measuring problems still exist. Inaccuracies may occur through the manner in which the equipment is used. Also, variable and individual methods which may be used tend toward producing less uniform results than may be obtained when certain fairly well standardized methods of measuring are used.

All measures should be level.

Flour.—The standard procedure is to measure flour after sifting once. Sifting should be fairly recent, since sifted flour tends to pack on standing. The quantity of flour sifted at one time is best limited to an amount which can be used before it tends to pack. In sifting graham or whole wheat flour, the bran is recombined with the sifted portion before measuring.

In filling the cup, dip flour with a tablespoon and fill lightly into the cup until the cup is heaping full; cut off level with the edge of a knife. It is important not to shake or tap the cup while it is being filled as either will cause packing of the flour. A fraction of a cup is measured by leveling accurately as possible to the mark. In filling tablespoon or teaspoon, fill spoon heaping full by dipping into flour, then cut off level with the edge of a knife. Half spoonfuls are measured by cutting in half lengthwise and scraping out one half. Quarter spoonfuls are measured by cutting a half crosswise into two equal portions and scraping out half.

Liquid.—Place cup upon a flat surface and fill as full as it can be filled without overflowing or spilling the contents when the cup is carefully tilted.

Fat.—Solid fats should be removed from the refrigerator long enough before measuring to permit them to become plastic. Very hard fats are difficult to measure accurately. Press the fat into the cup so that air spaces are forced out. Cut off level with the edge of a knife. In measuring a fraction of a cup, level off the top surface at the division mark as accurately as possible. For measurements up to one-fourth or one-third cup it is probably easier and quicker to measure by level tablespoonfuls.

Sugar.—(a) Granulated.—Fill cup as for flour, omitting sifting.

(b) Brown.—Roll out lumps. Press sugar firmly into the cup. Measured in this way, 1 cup of brown sugar is approximately equal to 1 cup of granulated sugar.

(c) Confectioner's.—Roll out lumps, then sift. Measure as for flour. One cup of confectioner's sugar measured in this way is slightly heavier than $\frac{1}{2}$ cup granulated sugar, about $1\frac{3}{4}$ cups confectioners' sugar being equal to 1 cup granulated sugar.

Syrup or Molasses.—Place the cup upon a flat surface. Fill the cup. Because of the thickness of the liquid it may tend to round up higher than level full. Cut off level with the edge of a knife. Measure spoonfuls by pouring syrup into spoon and cutting off level with the edge of a knife.

Symbols for Measurements

t. = teaspoon	c. = cup
T. = tablespoon	f.g. = few grains

Table of Common Measurements Used in Cookery

3 t. = 1 T.	2 c. = 1 pint
16 T. = 1 c.	4 c. = 1 quart
4 T. = $\frac{1}{4}$ c.	4 qts. = 1 gallon
8 T. = $\frac{1}{2}$ c.	2 T. = 1 liquid ounce or $\frac{1}{8}$ cup
12 T. = $\frac{3}{4}$ c.	8 oz. = 1 cup or $\frac{1}{2}$ pt.
$5\frac{1}{8}$ T. = $\frac{1}{8}$ c.	
$10\frac{2}{3}$ T. = $\frac{2}{3}$ c.	

This table is useful enough to justify memorizing it. The following table of measurements and weights will also be found valuable because of its usefulness:

Approximate Number Cups or Units in a Pound of Some Common Food Materials

$2\frac{1}{4}$ c. granulated sugar	2 c. butter or other fat
4 c. family or bread flour	About 10 average eggs
$4\frac{1}{2}$ c. pastry flour	(without shells)
4 c. grated cheese	

KINDS OF INGREDIENTS

The chief ingredients used in cakes and cookies are flour, sugar, fat, eggs, flavoring substances, and leavening agents. A small amount of salt usually improves the flavor, especially if an unsalted fat is used. Honey, molasses, chocolate, nuts, and dried or candied fruits are used in some mixtures.

Flour.—More consideration must be given to the kind of flour used for cakes than for quick breads. The amount of stirring required to yield the characteristic texture and crumb of a good cake makes necessary the use of flour which can be stirred without producing undesirable results. White wheat flour is composed chiefly of starch, with 10 to 14 per cent protein, most of which is gluten. Gluten is the substance in flour which gives it binding property and elasticity.

The four types of white flours are bread, family or all-purpose, pastry, and cake. Bread flour is made chiefly from hard wheat and has a slightly higher percentage of gluten and a much stronger and more elastic gluten than other types of flour. Because it produces a very firm and elastic product, it is not suitable for cakes.

Family or all-purpose flour may be a blend of hard and soft wheat flours, or may be made entirely from soft wheat. The strength and elasticity of the gluten varies with the source of the flour, but is always weaker than that from bread flour. While it is too strong a flour to yield delicate cakes, it has some uses in such types of cakes as fruit cakes, pound cakes, and rich cookies.

Pastry flour is made chiefly from soft wheat, and has a weaker gluten than either bread or family flour. It is well adapted to the making of cakes.

Cake flour is so made that it has a very low gluten content (around 7 per cent) and the quality of gluten is very weak. The flour is also very finely ground. All of these properties make cake flour especially suitable for delicate cakes.

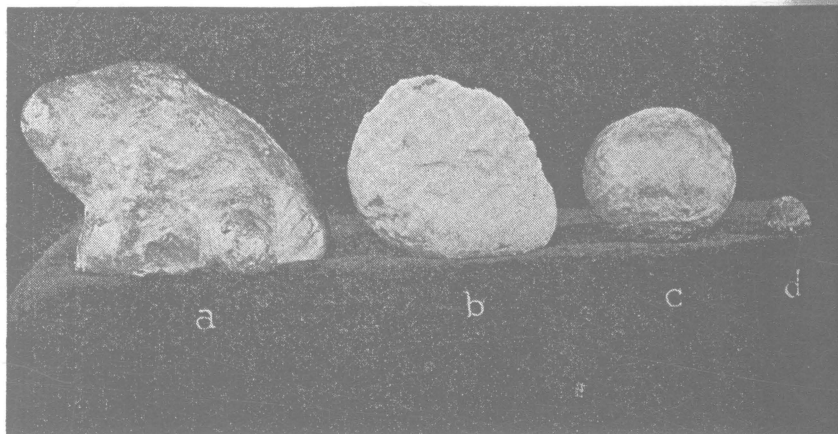


Fig. 1.—Gluten balls from equal weights of flour: (a) bread flour; (b) family flour; (c) pastry flour; (d) cake flour.

Sugar.—Sugar for making cakes should be finely granulated. A finer grained cake and a more desirable crust result from the use of finely granulated sugar than from sugar of coarse granulation. Brown sugar may be used for the flavor which it imparts. This flavor is due to the molasses which clings to the sugar crystals.

Honey or molasses may serve as part or all of the sweetening in cakes if the flavor which they impart is desired. In general, it is better to use recipes which have been satisfactorily developed for honey and molasses than to attempt to substitute honey and molasses for sugar in miscellaneous recipes.

Fat.—Solid fats yield cakes which are more tender and of better grain and texture than liquid or melted fats. Butter is best from the standpoint of flavor, but it does not cream to as large a volume as some other fats, and it has less shortening power than lard and some lard substitutes. If fats of greater shortening power and higher fat percentage are substituted for butter in a recipe which is rich in fat, the quantity should be decreased.

Butter is usually about 80 per cent fat, while lard and substitutes are practically 100 per cent fat. In substituting lard and substitutes for butter, only 80 per cent as much can be used in many recipes without introducing too much fat into the mixture. If the recipe has no more than one-fourth or one-third as much fat as sugar, it is likely that an equal amount of lard or substitute can be used without ill effects.

Liquid.—Milk, water, and fruit juices may all be used as liquids in a cake with good results. When water is substituted for an equal weight of milk, a more moist cake results.

Eggs.—Eggs of good quality are desirable for baking purposes as well as for table use. Since eggs are often well beaten in making cakes, it may be better to use eggs which are a few days old rather than newlaid eggs because of the better beating quality of the former. The sizes of eggs vary so much that using eggs by number rather than weight or measure may influence results in baking.

Leavening Agents.—Air and gas which may be formed from the action of baking powders when moistened, or from soda with sour milk or molasses, are the chief leaveners in cake mixtures.

Baking powder is a combination of acid with baking soda. A small amount of starch is used to keep the acid and soda separated until the powder is moistened in the dough or batter to give off its gas. Baking powder cans should be kept tightly closed to prevent absorption of moisture.

Baking powders are of three types, depending upon the acid used.

1. Tartrate—in which cream of tartar or tartaric acid (or both) is used to combine with soda.

2. Phosphate—in which an acid phosphate is used. An acid phosphate is generally used in combination with an aluminum salt.

3. The combination type of powder gives off less of its gas when moistened than the other types, but requires heating to give off most of its gas.

Any type of baking powder can be used in cakes, but the proportion used will need to be varied, the stirring slightly varied, and the oven temperatures sometimes differently controlled according to the type of powder used. Usually 1 or 1½ teaspoons of combination baking powder is used per cup of flour in the mixture, as compared with 1½ to 2 teaspoons for tartrate and phosphate powders. Mixtures containing the combination type may be stirred more than those containing tartrate or phosphate powders.

Probably no variation of oven temperatures is necessary for cookies made with different types of powders, but cakes with combination powder used may be of better texture if they are placed in an oven of 300° F. for 10 to 20 minutes before increasing the temperature. It is well, therefore, to read labels on cans, in order to know what type of baking powder is being used.

Spices.—Ground spices are added to cake and cookie mixtures if the special flavor is desired. Too much spice gives a strong flavor and dark color. Spices are usually sifted with the dry ingredients, but may be wet with a teaspoon of water before adding to the batter or dough.

Chocolate and Cocoa.—Chocolate and cocoa are similar products except for the amount of fat. Chocolate contains about 50 per cent fat, while in cocoa the fat may vary from 8 to 22 per cent. Both contain starch, about 8 per cent in chocolate and 11 per cent in cocoa. Cocoa, therefore, has more thickening effect than chocolate if used in the same quantity. This effect is

noticed more in cake or cooky mixtures than in other food products.

In substituting cocoa for chocolate, about two-thirds as much by weight gives more nearly the same color, flavor, and thickening than would be obtained by adding an equal weight of cocoa. By measure, about $3\frac{1}{2}$ tablespoons cocoa substitutes for one square of chocolate on above basis (two-thirds of the weight).

Some recipes suggest increasing the fat when cocoa is substituted for

chocolate. This point is a bit uncertain in view of the fact that cocoas differ in fat content. The melting of chocolate is best done over warm water to avoid undesirable changes in flavor.

Dried Fruits.—The dried fruits used in cakes should be thoroughly cleaned. Currants usually require washing through several waters. After washing, the fruit should be spread on a baking sheet and dried in a very slow oven. This procedure not only cleanses the fruit but makes it soft and plump.

The flouring of fruits and nuts before adding to a cake mixture is unnecessary. The chief factors in preventing fruits from settling to the bottom of the cake are: (a) consistency of batter (a slightly stiffer batter being necessary when fruits are used); (b) size of pieces (fruits and nuts chopped relatively fine stay in suspension better unless the mixture is very full of fruit); and (c) temperature of oven (higher temperature tends to "set" the mixture before the fruit has a chance to settle). Family flour is often preferable for regular fruit cakes than pastry flour because of its better binding power. The more elastic gluten tends to keep fruit from settling.

Nuts.—It is recommended that, from a sanitary standpoint, shelled nuts sold in bulk have boiling water poured over them. They are then drained and dried as suggested for dried fruits. In using, chop fairly fine. If a food chopper is used the coarse knife is best, since fine knives tend to produce a paste. Nuts are best left out of cakes which are to be stored for long periods,

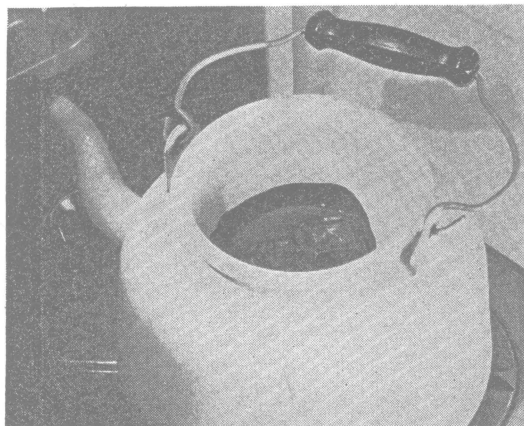


Fig. 2.—Melt chocolate over warm water (not boiling).

as fruit cakes are. Nuts tend to become rancid and affect the flavor and odor of the whole cake.

Flavoring Extracts.—Extracts are commonly used for flavoring cakes. They consist of oils or other flavor substances dissolved in alcohol. If of good quality they are not only free from adulterants but are sufficiently concentrated to be economical to use. Concentration is arbitrarily fixed by the Food and Drug Administration in defining standards for flavoring extracts. Cheap or adulterated extracts are either unjustifiably dilute, or have artificial or inferior substances substituted for the natural flavoring substances.

Oils must be used cautiously, as they are very concentrated in flavor. A drop or two will go as far as $\frac{1}{2}$ teaspoon or more of extracts.

Cocoanut.—This may be fresh grated, canned moist, or dry shredded in package or in bulk.

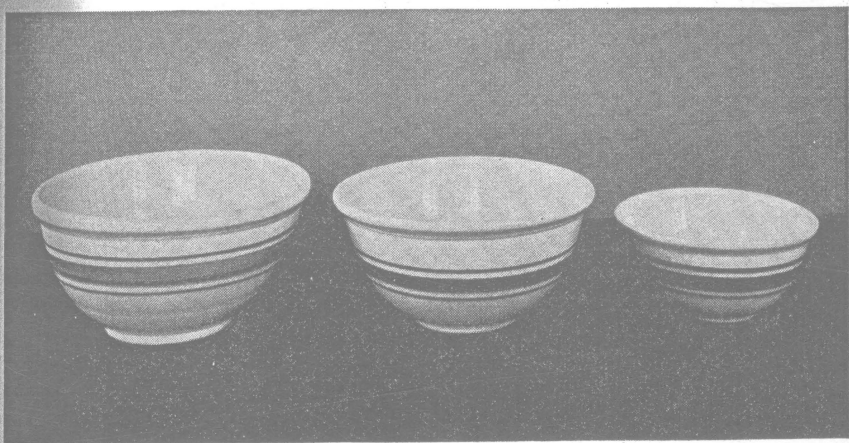


Fig. 3.—Bowls of desirable shape.

EQUIPMENT FOR MIXING AND BAKING CAKES

Bowls with sloping sides are more convenient for mixing all doughs and batters which require stirring than bowls with straight sides. Bowls which are heavy enough to prevent sliding around are more easily held and used than bowls of lighter weight. The size of bowl should be suitable for the amount of mixture.

Bowls for beating eggs should also have sloping sides. When yolks alone are to be beaten it is important that the bowl be small enough to enable the beater to get hold of the mass to be beaten and to prevent undue spattering of yolks on the sides of the bowl. Because of the high fat content of egg yolks, they cannot be beaten as stiff as it is possible to beat egg whites, but they should be light colored and thick when sufficiently beaten. This result is impossible without a bowl of efficient size and shape.

Spoons for stirring or beating are more efficient if of paddle shape. Light-weight wooden spoons are easier to hold than metal spoons, and will not discolor the product as metal spoons sometimes do.

Egg beaters are of three types—the rotary type, the turbine type (in which a flat wheel runs parallel to the bottom of the bowl), and the wire mesh or whisk type. The rotary type, particularly if it has double wheels, beats more rapidly than the wire mesh. Either rotary or turbine type is more satisfactory for beating egg yolks than the whisk. Either rotary or whisk is efficient for beating whites. It is very easy to over-beat whites with the rotary beater unless the worker carefully watches the egg whites while beating. Somewhat larger cells and larger total volume usually result from use of the whisk in beating egg whites. If the whisk is used for beating, a plate or platter is preferable to a bowl.

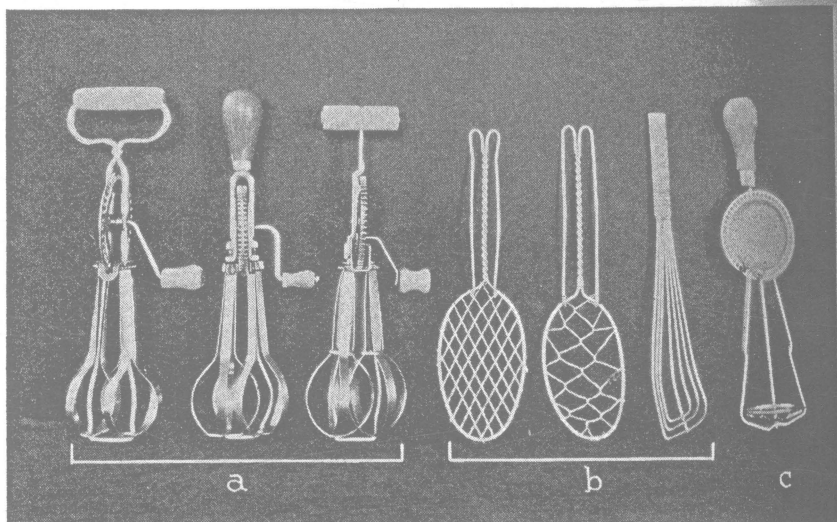


Fig. 4.—Various types of egg beaters: (a) rotary type; (b) whisk type; (c) turbine type.

Pans for baking cakes are usually of tin, aluminum, Russia iron, or oven glassware. The product is apparently affected by the material from which the pan is made. Bright surfaces reflect heat, while dull surfaces absorb heat, cause the baking to proceed more rapidly, and produce browner crusts than bright surfaces. Food bakes more rapidly when in tin than when in aluminum. Crusts of products baked in aluminum are usually paler than those baked in other materials. Enamelware gives too heavy and brown a crust for desirable cakes. Some studies seem to indicate that glassware is slower for baking purposes than tin or Russia iron, but faster than aluminum. Crusts of products baked in glassware are likely to be paler than those baked in tin or iron.

The shapes of pans vary with the use. They may be of layer depth, regular loaf, square or rectangular shape for making flat loaf or sheet cakes, or may be round and have a funnel center.

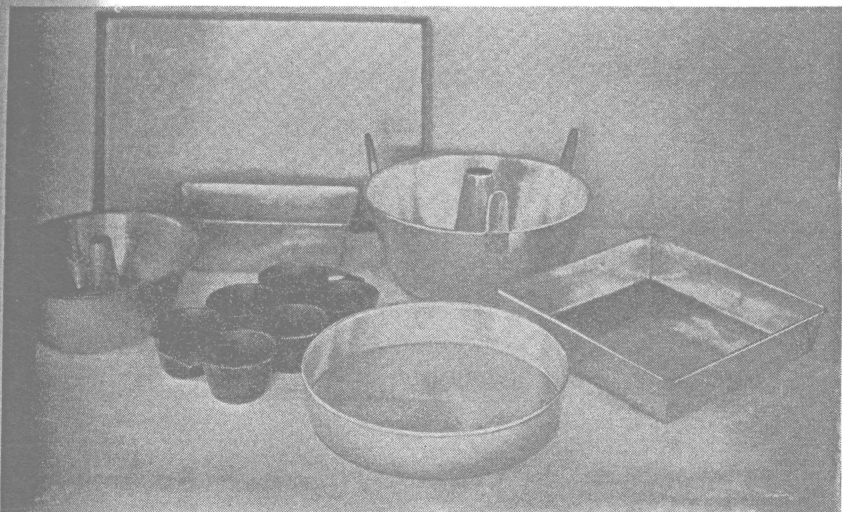


Fig. 5.—Useful pans for baking cakes and cookies.

Baking sheets are more efficient for baking roll or drop cookies than pans with higher sides. High sides shut off the heat sufficiently to delay or prevent browning of tops of cookies. Baking sheets should be heavy enough not to warp while in the oven, and the size should be 2 to 4 inches smaller than the size of the oven shelf. If of the same size as the shelf, the circulation of hot air is interfered with and the baking sheet becomes too hot due to contact with oven walls. This may cause burning of the product which is being baked, particularly along the outer edges.

Cake pans require greasing except when used for the sponge type of cake. Melted unsalted fats are preferable to hard salted fats. Salt tends to cause sticking, and hard fats may spread in too thick a layer. A pastry brush or piece of absorbent paper may be used for spreading fat. In addition to greasing, cake pans may be lightly floured by tossing a tablespoon of flour over the surface and discarding the surplus.

A piece of waxed or plain paper may be cut to fit the bottom of pan

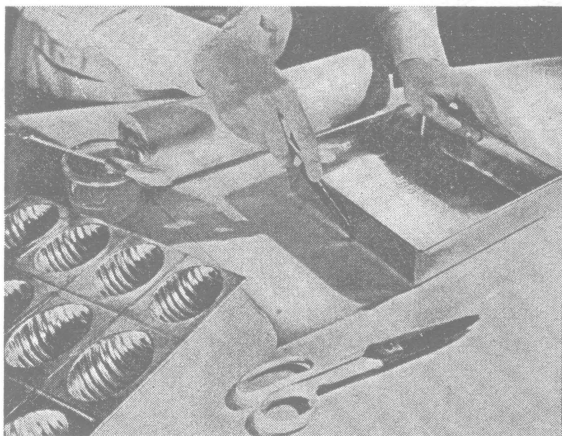


Fig. 6.—Lining the cake pan with paper.

exactly. After it is in place on the greased pan the top of the paper is also greased.

Roll cookies are usually rich enough in fat to make greasing of baking sheet unnecessary. Also the lightly floured outside surface of the cookies is an aid in preventing sticking. Pans for some drop cookies, however, require greasing.

Wire racks are desirable for cooling cakes or cookies. Standing as they do about an inch above the table surface, they permit circulation of air around the cake. Waxed paper should not be placed on the rack before placing the cake upon it, as the paper interferes with circulation of air through the wire mesh of the rack.

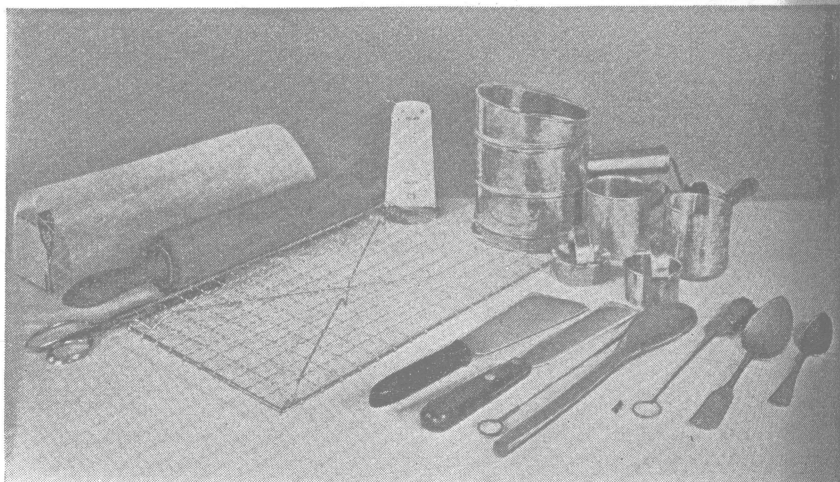


Fig. 7.—Miscellaneous equipment for home baking.

OVEN TEMPERATURES

Fires should be lighted under ovens long enough before they are needed to permit them to reach the desired temperature. Insulated and heat-controlled ovens require 20 to 25 minutes to reach the temperature on which the wheel is set. In ovens which are not equipped with thermostat the heat is more easily controlled if the oven is gradually heated to the desired temperature by turning the fire only moderately high at first, and gradually increasing the flame if necessary.

Oil stoves usually require a longer time for heating than gas and electric stoves, and sufficient time allowance should be made so that the oven is ready when needed. Several newer type oil stoves heat about as rapidly as gas. Oil flames tend to creep up if they are lighted for a long time and require turning down from time to time to avoid increase in oven temperature.

Coal and wood ranges are the most difficult of all to control. Products should not be placed in the oven until the fire has burned sufficiently for the heat to pass its maximum. From that time on the oven heat is decreasing in intensity. Exact temperatures and temperatures which are varied in intensity are probably not so easily obtained in the oven heated by coal or wood. Some women experienced in the use of coal or wood ranges believe that better results are obtained if temperatures 50 to 75 degrees lower are used for baking than would be used in other types of stoves. The reason for this opinion is not clear, since it would seem that the source of heat should make no difference.

It is important to have a portable thermometer for showing oven temperature if no thermostat is built into the stove. A good thermometer can be had for about \$1.50. The thermometer is more durable if the bulb is wired rather than cemented to the frame. When using a portable thermometer during baking, place it in the center front of oven. The temperature there most nearly corresponds to the temperature recorded by the thermostat controlled oven.

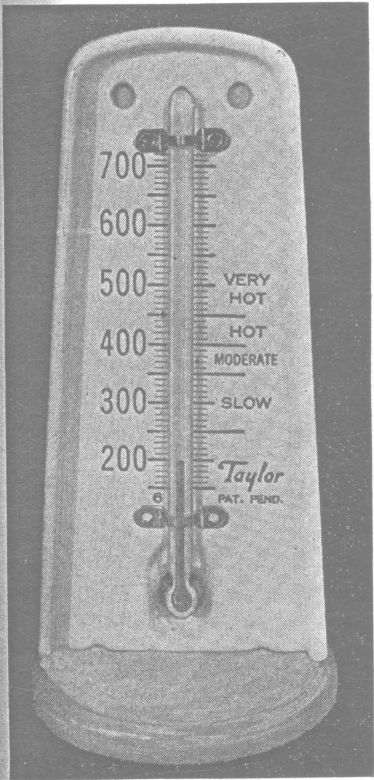


Fig. 8.—Vertical type portable oven thermometer.

Heat indicators which are built into oven doors are much less dependable than portable oven thermometers used in the oven. Heat indicators are sometimes of cheap quality and unreliable. Some indicators that are built into the door register a lower temperature than exists further back in the oven.

The terms low, moderate, hot, and very hot, as applied to oven temperatures, are represented by the ranges of temperature as stated below:

Low	250° — 350° F.
Moderate	...	350° — 400° F.
Hot	400° — 450° F.
Very hot	...	450° — 550° F.

It is very essential that the oven temperature be right when the batter or dough is put in to bake. The temperature should be watched and controlled throughout the baking period.

Favorable temperatures for baking cakes and cookies are shown in Table 1.

TABLE I

Type of Cake	Temperature for Baking
Sponge Cakes	250°–300° F.
Plain Butter Cake — Loaf	If tartrate or phosphate baking powder is used, 350° F. for 20 minutes, then 375° F. for remainder of time. If combination powder is used, 300° F. for 20 minutes then increase to 375° F.
Layer	Same as for loaf if tartrate or phosphate powder is used. If combination powder is used, 300° F. for 10 minutes, then 375° F.
Fruit Cakes	300°–350° F.
Roll Cookies	400°–425° F. 10-15 minutes. 375° F. for molasses and chocolate mixtures.
Drop Cookies	375° F. 10 to 20 minutes.

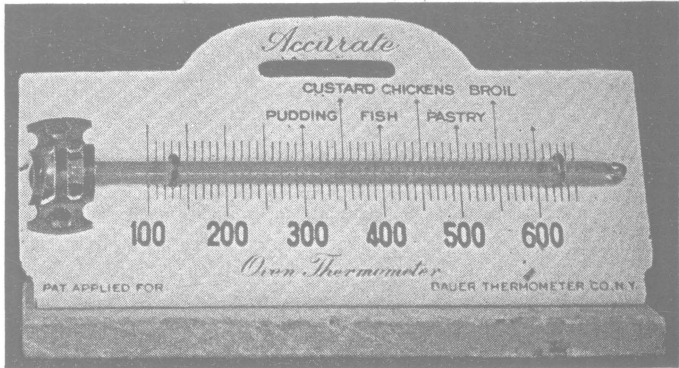


Fig. 9.—Horizontal type portable oven thermometer.

BAKING TESTS

To determine when cakes are done they may be tested by use of a toothpick or wire cake tester. When inserted into the center of the cake the tester should come out clean and dry. Dough clinging to the tester indicates insufficient baking. Layer cakes, roll and drop cookies can usually be tested by pressing the top lightly with the finger. If no indentation remains and the cake springs back lightly, the cake is done.

Another test which indicates that the cake is done is shrinkage from the sides of the pan, but if the cake has considerable depth the cake tester should also be used.

PROCESSES USED IN MAKING CAKES

Creaming.—The term “creaming” is applied to the forming of a light foamy product by stirring or beating air into fat. The fat is first mashed

against the sides of the bowl until it becomes plastic enough to stir. When the creaming process is used, sugar is gradually added later. Since more air can be incorporated after some sugar is in the mixture, it is desirable to start adding sugar soon after the fat is plastic enough to stir.

The temperature at which fat creams best is about 70 to 80° F. or 21 to 26° C. Since the whole cake emulsion forms better at the temperatures which are best for creaming, it is desirable to have all ingredients at about room temperature. Care must be taken, however, to avoid so warm a temperature that the fat becomes very soft or partially melted. It does not cream if too soft.

Stirring or Beating.—The term “stirring” is usually applied to the round-and-round movement at slow speed. If rapidly applied, it is generally used synonymously with beating. In other words, beating may be done with a rotary movement or an over-and-over movement. The amount of beating that batters will stand depends partly on the thickness of the batter, but may also depend on the type of baking powder and on the proportion of ingredients used. Thin batters are usually not adversely affected by long beating, but thicker batters are toughened by the development of the gluten which results from excessive beating. If beating is continued too long gas bubbles are also lost from the mixture, resulting in a more compact product. Peaks may also form on top and large holes may mar the interior.

Cutting and Folding.—This term refers to a down, up, and over movement in which the spatula or whisk or thin metal spoon used for folding is run alternately through and under the mixture, after which it is carried up and over the top of the mixture, carrying some of the mixture with it. The spatula or spoon handle usually turns in the hand in completing one cutting and folding movement.

GENERAL PROCEDURES FOR MAKING CAKES

1. Light fire under oven.
2. Assemble all ingredients.
3. Assemble all equipment.
4. Prepare pans before starting mixture. For butter cakes, the pans are greased with melted, unsalted fat. One tablespoon of flour may be dusted on the greased surface and the surplus removed, or a waxed or plain paper may be cut to exactly fit the bottom of the pan. This paper is greased on top and being fitted into the greased pan.
5. Pans for angel food and sponge cake are not greased. A dry waxed paper may be laid in the bottom if desired, but is not necessary.
6. Sift flour and measure. For convenience, heavy waxed or light plain paper may be used instead of a bowl.
7. If dry ingredients are to be sifted together, sift them after measuring weighed flour.
8. Have all ingredients at room temperature. The fat can be more accurately measured if plastic. It can also be more readily creamed. All ingredients can be more quickly and efficiently blended if at room temperature than at refrigerator temperature.

Cookies

Cookies are of four types: roll cookies, drop cookies, sliced or cut cookies, and those of cake-like texture which are usually baked in a sheet and cut into squares or bars.



ROLL COOKIES

Roll cookies are usually crisp after baking, but some types have a crumb similar to cake. The dough is usually as soft as can be handled for rolling. In some instances the high fat content makes necessary a chilling of the dough before it can be rolled. Recipes for roll cookies vary widely. Some have no leavening agent added and some have a reduced amount of leavening. The slightly porous texture of some rich crisp cookies is due entirely to air which is worked into the fat during creaming. The quantity of liquid may be very small, or liquid other than that from eggs may be omitted entirely. Cookies without liquid are usually of high fat content.

In rolling the dough, the ill effects of re-rolling too many times may be avoided if a portion of the dough is rolled at one time and the uncured portions put aside to be re-rolled together at the last. The cookies should not have an excess of dry flour clinging to them when they are ready for the baking sheet, as much of the flour will remain on them after baking. Leaving too much flour on the board is also a very easy way to add to the dough more flour than is desirable for good texture and flavor. Inexperienced people who have difficulty in rolling cookie dough in the ordinary way may find it easier to roll between two thicknesses of heavy waxed paper.

Rolling pins as well as boards should be lightly floured, and cutters are less likely to stick to the dough if the cutting edge is dipped into flour before using.

The thickness of rolled dough ready for cutting is usually $\frac{1}{8}$ inch. If dough is to be used for cut-outs, especially large ones, it is better to roll to $\frac{1}{4}$ inch thickness.

In removing cut cookies from the board to the baking sheet, the edge rather than the end of the knife or spatula should be used.

SUGAR COOKIES

1 c. sugar	2 eggs, well beaten
$\frac{1}{2}$ c. butter or other fat	$\frac{1}{2}$ t. salt
1 t. vanilla	3 t. baking powder (any kind)
2 $\frac{3}{4}$ c. cake flour	

Cream fat, and gradually add sugar; add eggs, and mix well with vanilla, and dry ingredients which have been sifted together, and blend thoroughly. Chill dough. Roll and cut with large cutter. Sprinkle top of cookies. Place on ungreased baking sheet and bake in oven (400° F.).

RICH BUTTER COOKIES

2 c. sugar
1½ c. butter

1 egg and 1 extra yolk
4 c. pastry flour

Cream butter well, add sugar, and continue creaming; add egg and
Chill dough until hard. Roll and cut with 2- or 2½-inch cutter.
Prepare about ⅔ cup finely shaved blanched almonds. Beat one egg white
and foamy. Place ½ teaspoon of egg white in center of each cookie, and
sprinkle with sugar and nuts. Bake in hot oven (400-425° F.) for about
10 to 12 minutes.

SAND TARTS

1 c. sugar
½ c. butter
1 egg, beaten
2 c. cake flour
2 t. baking powder (any type)
¼ t. salt

For tops of cookies
1 raw egg white
mixed { 1 T. sugar
 ¼ t. cinnamon
 1 c. blanched split almonds

Cream fat, add sugar gradually, add egg, and mix well. Add dry
ingredients which have been sifted together. Chill dough. Roll, cut, and
arrange on baking sheet. When ready for the oven, brush with egg white,
sprinkle with sugar and cinnamon mixture, and place three halves of almonds
on top of each cookie. Bake in moderate oven (375° F.).

MOLASSES COOKIES

1 c. molasses
½ c. butter or other fat
1 t. salt
2 t. soda

2¼ c. flour (pastry or family)
1½ t. ginger
1½ t. baking powder (any type)

Sift dry ingredients together. Heat molasses and remove from fire,
add fat and soda, then add dry ingredients, and mix well. Chill. Roll ⅛ to
⅜ inch in thickness, cut, and bake on lightly greased baking sheet in mod-
erate oven (350° F.). Store in tightly closed tin or earthenware container.

This is a good mixture for cut-outs for children, but may require rolling
to ¼ inch thickness if the cut-outs are large. In making cut-outs the dough
can be rolled on a floured baking sheet and the trimmings removed from the
sheet. This avoids transfer of cut-outs.

Features and costumes may be made from frostings, small candies,
or pieces of preserved fruits.

HONEY COOKIES

2 c. honey
1 c. sugar
1 c. lard
2 eggs

1 c. sour cream or milk
Family flour — to form a soft dough
2 t. soda
1 t. cinnamon

1 t. nutmeg
1 t. cloves
½ t. salt

Cream fat; add honey and sugar, and continue creaming; add eggs
mix well. Sift dry ingredients together and add alternately with the sour

cream or milk. Chill and roll. Cut with lightly floured cooky cutter and place upon ungreased baking sheet. Bake in moderate oven (375°F.).

FILLED COOKIES

$\frac{1}{2}$ c. sugar (granulated or firmly
packed brown
 $\frac{2}{3}$ c. butter
1 egg, well beaten
 $\frac{1}{3}$ c. milk

1 t. vanilla
3 c. pastry flour
4 t. baking powder (any type)
 $\frac{1}{2}$ t. salt

Cream butter, add sugar gradually, add egg, and mix well, then add vanilla. Sift dry ingredients together and add alternately with the milk,



Fig. 10.—The technic for filling cookies.

blend thoroughly. Chill dough. Roll to $\frac{1}{8}$ inch thickness, and cut with $2\frac{1}{2}$ -inch cutter. Place cookies on baking sheet. Put 1 level teaspoonful of jam or other fruit filling in center of each round. Fruit filling may be made by cooking dried fruit such as seeded raisins or apricots with a little sugar. A few chopped nuts may be added if desired. Cover with another round of dough and seal edges by pressing firmly together. Prick center of top slice to allow steam to escape. Bake in hot oven (400°F.) for 10 to 12 minutes.

DROP COOKIES

Drop cookies vary in consistency depending upon the finished product desired. Some mixtures are meant to spread into a round flat cookie of about $\frac{1}{4}$ to $\frac{1}{2}$ inch depth which gives a softer cookie than most rolled doughs give. Other drop cookies are meant to hold their form. Judgment and acquaintance with the recipe are necessary in order to avoid too stiff or too soft a mixture. A mixture stiff enough to hold its form almost completely during baking usually produces a dry, bread-like cookie which may crack on top while baking. A cookie that only partially holds its shape during baking is usually of the most desirable consistency for pleasing eating quality as well as pleasing appearance. The type of mixture partially determines how stiff it may be without producing undesirable results. A mixture very rich in fat can be softer than one less rich. Practically all mixtures will be stiff enough to require scraping rather than dropping from the spoon.

Rocks

1 c. butter	1 t. cinnamon
1½ c. brown sugar	1 T. water
3 eggs	1 t. vanilla
3 c. flour	1 c. raisins
1 t. soda	1 c. chopped nuts
½ t. salt	

Cream fat, add sugar, and continue creaming; beat eggs and add to sugar mixture. Mix soda and cinnamon with water and add to mixture. Add flour and vanilla and mix well, then add nuts and raisins. Drop from teaspoon on a greased baking sheet. Bake in moderate oven (375° F.).

BOSTON FRUIT COOKIES

1 c. butter	2 t. cinnamon
1½ c. sugar	1 t. cloves
3 eggs	1 t. nutmeg
½ c. hot water	1 c. chopped nuts
1 t. soda	1 c. currants
3 c. family flour	1 c. raisins
½ t. salt	

Cream butter; add sugar gradually while creaming; beat eggs and add to creamed mixture. Sift dry ingredients together. Add hot water and dry ingredients, and mix well, then add fruits and nuts. Drop from teaspoon on greased baking sheet. Bake in moderate oven (375° F.).

GINGER COOKIES

2 c. molasses	3 t. ginger
1 c. brown sugar	½ t. salt
2 c. lard or other shortening	3 t. soda
1 c. cold water	5½ c. flour
3 eggs	

Cream fat, add sugar and eggs, and beat well. Add molasses, water, and dry ingredients which have been sifted together. Drop by heaping teaspoon on lightly greased board. Bake in moderate oven (375° F.).

SOUR CREAM COOKIES

1 c. butter
2 c. sugar
3 eggs
1 c. sour cream

1 t. soda
1 t. salt
 $\frac{1}{2}$ t. grated nutmeg
About 4 c. family flour

Cream fat and sugar together. Add beaten eggs, cream, and dry ingredients which have been sifted together. The batter is meant to spread to about $\frac{1}{2}$ inch depth during baking; it should not be too stiff when dropped. Drop by heaping teaspoons on greased baking sheet. Sprinkle sugar on top and bake in hot oven ($400-425^{\circ}$ F.) until the top springs back when lightly touched.

CHOCOLATE DROP COOKIES

1 c. brown sugar (rolled free from lumps) $\frac{1}{2}$ t. soda
 $\frac{1}{2}$ c. butter $\frac{1}{4}$ t. salt
1 egg 2 c. pastry flour
 $\frac{1}{2}$ c. sweet milk 1 t. vanilla
2 squares chocolate (melted over warm water and cooled)

Cream fat, and gradually add sugar. Beat eggs and add to mixture. Sift dry ingredients together and add alternately with the milk, then add chocolate and vanilla, and mix well. Drop by heaping teaspoons on greased baking sheet. Bake in moderate oven (about 350° F.)

These cookies may be frosted if desired (see uncooked chocolate frosting, page 40).

ICE BOX OR SLICED COOKIES

Ice box cookies are made from mixtures very rich in fat. The dough is too soft and rich in fat to be rolled successfully. They are placed in the refrigerator after being mixed and shaped into a form ready for slicing. (see Figs. 11 and 12.)

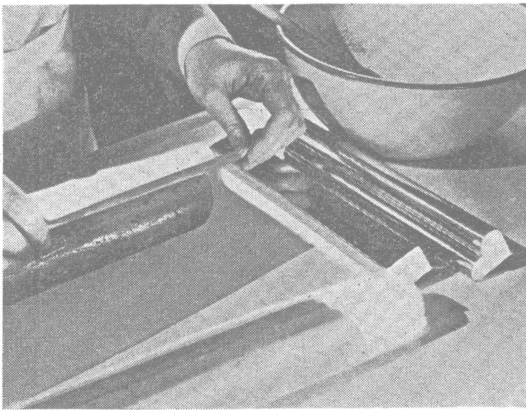


Fig. 11.—A method for shaping ice box cookies.

After the fat has been hardened by the cold temperature, the dough may be sliced and the slices placed upon a baking sheet ready for baking.

Fairly large recipes may be made, as the dough can be kept for a week or ten days in a cold refrigerator. Those who like very rich cookies and who like their cookies freshly baked will

appreciate the convenience of the ice-box type of cookie mixture.

Ice box doughs may be shaped ready for slicing as follows:

1. Flour the hands and shape the dough into long rolls. Wrap rolls in heavy waxed paper.

2. Place dough in small tin or cardboard boxes lined with waxed paper. Empty butter cartons which are waxed can be used with no paper lining. Close one end and stand carton on end; fill from open end, packing dough tightly to fill all spaces.

Chill dough until hard enough to slice. Slice $\frac{1}{8}$ to $\frac{3}{16}$ inch thick and place upon ungreased baking sheet.

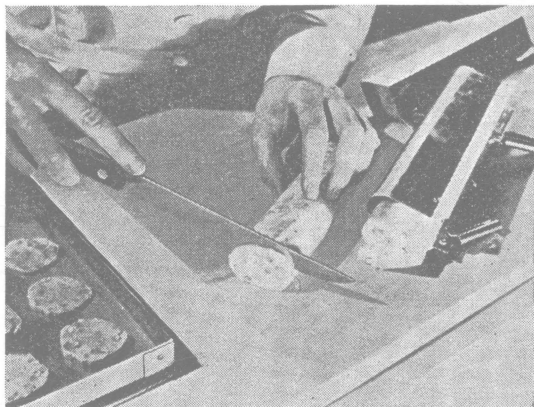


Fig. 12.—Slicing ice box cookies for baking.

The dough may be forced through a cookie press without chilling if desired. This method is used for various types of rich novelty cookies.

PLAIN ICE BOX COOKIES

2 c. butter	$\frac{1}{2}$ t. salt
1 c. sugar	1 t. vanilla
1 egg (well beaten)	4 c. cake flour

Cream butter well, add sugar gradually, add egg, and blend thoroughly. Add flour gradually, beating well after each addition. Add extract while adding the last of the flour. Prepare for storing in refrigerator according to directions above. Slice and bake on ungreased pan in moderate oven (375°).

Note: This is a particularly good recipe for rich tea cookies made into fancy shapes by use of a cookie press, or sliced from a small round roll and decorated with colored sugars, stripes of candied cherry, citron, or angelica.

BUTTERSCOTCH COOKIES

2 c. brown sugar	2 t. vanilla
1 c. butter or other fat	$3\frac{1}{2}$ c. family flour
2 eggs	3 t. baking powder

Cream fat, add sugar gradually, add unbeaten eggs, and blend well. Add vanilla and sifted dry ingredients. Mix well. Store in refrigerator and slice according to general directions above. Bake in moderate oven (375° F).

Variations of Butterscotch Cookies:

Nut cookies — Add 1 cup chopped nuts.

Cocoanut cookies — Add $1\frac{1}{4}$ cup shredded cocoanut.

Chocolate cookies — Add 2 squares of melted chocolate to the foundation recipe, adding 1 cup chopped nuts if desired.

If one desires variety without making the full recipe of each, the dough may be divided into halves or thirds. Add nuts, cocoanut, or chocolate to these portions as desired, adding suitable amount for the quantity of dough.

COOKY BARS

Cake-like cooky mixtures include such types as brownies and fruit bars. They may have either a sponge or butter cake basis.

FRUIT-CAKE SQUARES

1 c. brown sugar	1/2 c. chopped nuts
2 eggs	1 c. chopped candied fruits
1 t. vanilla	(pineapple, cherries, candied
3/4 c. family flour	orange peel) <i>or</i>
1/2 t. salt	1 c. dried fruits (figs, dates,
1 t. baking powder	and raisins)

Beat eggs stiff, add the sugar gradually, and continue beating, then add vanilla and fruits. Lightly stir in dry ingredients. Spread mixture about to 3/4 inch thick in a shallow greased pan. Bake for about 30 minutes in moderate oven (350° F.). When cool cut into squares or strips.

DATE BARS

3 eggs	1 c. nuts (cut fine)
1 c. sugar	1 c. dates (cut fine)
1 c. flour	1/2 t. vanilla
1/4 t. salt	

Beat egg yolks, add sugar, salt, flour, fruit, vanilla, and nuts. Beat whites stiff and fold into mixture. Spread to about 1/2 inch depth on baking sheet and bake in moderate oven (350° F.). Cut into squares or strips. This amount fills one baking sheet 12 by 16 inches.

BROWNIES No. 1

1 c. sugar	1/8 t. salt
1/4 c. butter	1 c. walnuts cut rather large
2 eggs	1 t. vanilla
1/4 c. milk	1 square melted chocolate
1 scant c. pastry or cake flour (1 c. minus 1 T.)	

Cream fat, gradually add sugar, and continue creaming. Beat eggs and add to fat-sugar mixture. Cool chocolate and add, then stir in dry ingredients and nuts. Pour into greased square pan to about 1/2 inch thickness, bake in moderate oven (350° F.). Cool slightly in pan, then cut into squares and remove to cooling rack. Store in tin or earthenware container.

BROWNIES No. 2

4 eggs	2 c. family flour
2 c. sugar	1 c. chopped nuts
1/2 lb. butter	1 t. vanilla
4 squares chocolate	Pinch salt

Beat eggs until foamy, add salt, and continue beating until stiff. Add sugar gradually and continue beating. Melt chocolate and butter together and cool. Combine sugar and chocolate mixtures. Add flour and beat. Add nuts and vanilla. Pour into two greased square cake pans and bake 25 to 30 minutes in moderate oven (350° F.). Cut into squares.

brownie is very rich, dark, and moist inside. Sugar forms a light colored coating on top while baking; this gives the appearance of a thin frosting.

LEBKUCHEN

2 c. dark brown sugar

4 eggs

1 c. flour

Juice 1 lemon

1 orange (juice and grated rind)

$\frac{1}{4}$ t. soda

$\frac{1}{2}$ to 1 c. chopped nuts

$\frac{1}{2}$ t. each cinnamon, allspice, cloves

Beat eggs until very stiff, add sugar, and continue beating; add dry ingredients which have been sifted together, and fruit juices. Spread to about $\frac{1}{2}$ inch depth on greased baking sheet or shallow pan, and bake in moderate oven (350° F.). Cut into squares when cool.



Fig. 13.—Filling the cookie jar.

BLITZ KUCHEN

$\frac{1}{2}$ pound sugar

$\frac{1}{2}$ pound butter

$\frac{3}{4}$ pound flour

Yolks 4 eggs

Whites 2 eggs

Topping

Whites 2 eggs

Sugar

Cinnamon

Chopped blanched almonds or peanuts

Cream butter, add sugar, and continue creaming; add egg yolks and beat mixture well; then add flour. Fold in egg whites which have been beaten stiff. Spread thin on greased baking sheet. Spread top with two beaten egg whites, sugar, chopped blanched almonds or peanuts, and cinnamon.

Bake in moderate oven (350° F.). Cut in squares or bars after slightly.

HONEY DATE BARS

1 c. honey	1 c. nut meats (chopped)
3 eggs	1 lb. dates (chopped)
1 t. baking powder (any type)	½ t. salt
1 ⅓ c. family flour or whole wheat flour	

Mix honey and well beaten eggs. Add dry ingredients sifted then the chopped nuts and dates. Pour into shallow pan to about ½ inch thickness. Bake in moderate oven (350° F.). Wrap slab in waxed paper and store in tin box or earthenware jar about two weeks before using into bars.

MISCELLANEOUS MIXTURES

DOUGHNUTS

Doughnuts are of two types: the cake mixture or sweet doughnut and the raised doughnut which is a yeast mixture. The dough is rolled to ½ inch thickness, cut with doughnut cutter and fried in deep fat. Sweet doughnuts are less rich than the average plain cake or cooky. A high percentage of sugar, fat, or eggs in the mixture usually results in greater absorption while frying. The use of a flour with fairly strong gluten is preferable to pastry or cake flour if fat absorption is to be reduced to a minimum, although a pastry flour doughnut is more tender than one made from bread or family flour. Too low a temperature of fat increases fat absorption, but the temperature must be low enough to permit thorough cooking of the doughnut before it browns excessively.

Deep fat frying kettles should have a narrow diameter in relation to the size of kettle as an aid in preventing decomposition of the fat. The fat used should be one which does not decompose at low frying temperature. It may be used a number of times if it has not been overheated and if it has been strained and stored in a cold dark place when not in use. Lard is not quite so good for deep fat frying as cottonseed oil or hydrogenated vegetable oil, as lard decomposes at a lower temperature than the other two fats.

The temperature of fat for frying doughnuts is about 185° C. or 365° F. A thermometer is necessary for determining accurately the temperature of the fat. The browning of a cube of bread is a very rough test for temperature. If a cube becomes golden brown in 40 seconds the fat is supposed to be right for browning and heating cooked mixtures such as croquettes. If 60 seconds are required to obtain a brown crust, the fat is said to be right for mixtures that must be cooked well as browned. The variation in moisture content of mixtures and the variation in individual judgment as to brownness of crust formed make this test distinctly less valuable than a thermometer reading. A thermometer is also a valuable aid against overheating the fat and thus causing it to decompose. In households where fat is frequently used for frying purposes, the saving in fat by avoiding overheating will pay for a thermometer.

SOUR CREAM DOUGHNUTS

1 c. sugar	$\frac{1}{2}$ t. soda
1 c. sour cream	1 t. baking powder (any type)
3 eggs	$\frac{1}{4}$ t. salt

Family flour to form soft dough

Mix sugar, cream, and eggs, and stir well. Sift soda, baking powder, and salt with about 2 cups flour. Add to first mixture and continue adding flour until a soft dough is formed which can be rolled. Roll on lightly floured board $\frac{1}{2}$ or $\frac{5}{8}$ inch thickness. Cut with doughnut cutter which has been dipped into flour. Lift from board with edge of knife or spatula. Drop four doughnuts at a time into fat heated to 365° F. As soon as doughnuts rise to top of fat turn them with a fork, being careful to avoid piercing. Turn frequently until both sides are browned sufficiently. Remove to a pan which is covered with absorbent paper (crepe paper toweling is good) to drain off excess fat. Sprinkle lightly with sugar, if desired, or place one or two doughnuts at a time in a bag containing sugar.

POTATO DOUGHNUTS

$1\frac{1}{2}$ c. sugar	3 t. baking powder (any type)
4 T. butter	$\frac{1}{4}$ t. salt
2 eggs	$\frac{1}{8}$ t. grated nutmeg
1 c. hot mashed potatoes	6 c. flour
1 c. milk	

Cream butter; gradually add sugar; add eggs and hot mashed potatoes, and mix well. Sift dry ingredients together and add alternately with milk. Roll out on floured board and pat or roll to about $\frac{1}{2}$ inch thickness. Cut with floured doughnut cutter and fry as directed under sour cream doughnuts.

CREAM PUFFS

1 c. boiling water	1 c. flour (family or pastry)
$\frac{1}{2}$ c. butter	3 eggs

Add fat to boiling water. When the fat is melted, stir in the flour all at once. Continue heating and stirring until the mixture is smooth and thick; avoid overcooking. Remove from the fire, cool the mixture slightly, and add unbeaten eggs one at a time and beat batter thoroughly after each addition of egg. A stiff shiny batter should be the result. Drop by spoonfuls about 2 inches apart on ungreased baking sheet (this amount makes 12 large puffs). Bake in a hot oven (425 to 450° F.) for 10 to 15 minutes, then reduce temperature to 350° F. The total cooking time is 45 to 60 minutes.

Filling for Cream Puffs

$\frac{3}{4}$ c. sugar	2 eggs	2 c. milk
$\frac{1}{3}$ c. flour	$\frac{1}{4}$ t. salt	1 t. vanilla

Mix dry ingredients and add enough milk to form a smooth paste. Beat slightly in top of double boiler. Add paste and balance of milk, and cook thick, stirring constantly. Cover and cook 5 to 10 minutes longer, remove from fire, cool, and add vanilla. When puffs are done, cool, cut an opening near the top and fill with cream filling. Whipped cream sweetened and flavored may be used instead of cooked filling if preferred.

Cakes

Cakes are of two types: cakes with fat, often spoken of as butter cakes, and sponge cakes, which are made without fat. The latter may be vanilla sponge or angel food, and yellow sponge made from the whole egg. Since the ingredients in the two types of cakes differ, methods of manipulation also differ. The most important methods for mixing butter cakes are:

1. Conventional Method — which consists of:

Creaming the fat.

Gradually adding sugar while creaming.

Adding egg yolks beaten or unbeaten and mixing thoroughly.

Adding alternately the dry ingredients which have been sifted together and the liquid.

The flavoring may be added to the fat-sugar mixture, to the liquid, or while adding the liquid and flour.

The beaten egg whites are added last.

A modification of this method consists of adding the whole beaten egg to the fat-sugar mixture instead of folding in the beaten whites at the last.

2. Mixer Method —

All ingredients are placed in the mixing bowl together and beaten about 5 minutes, or until the batter is smooth and light.

The fat must not be melted, but must be soft enough to blend with other ingredients so that no lumps of fat remain. Allow fat to stand at room temperature until soft, or cream the fat before adding other ingredients to the bowl.

The eggs are unbeaten.

The leavening agent is placed on the flour rather than in the liquid. Still, in the use of this method can produce a good cake.

3. Muffin Method —

Sift dry ingredients together in bowl which is to be used for mixing.

Beat eggs.

Add liquid and flavoring to eggs.

Add melted fat to liquid ingredients.

Turn liquid all at once into dry ingredients and beat until smooth.

This method does not produce an excellent cake, but is usable for a cake which is baked as cup cakes or which is to be eaten fresh.

BUTTER CAKES

QUICK MIXER CAKE

$\frac{1}{3}$ c. butter

1 c. sugar

2 eggs

$\frac{1}{4}$ t. salt

$\frac{2}{3}$ c. milk

2 c. cake flour

4 t. tartrate or phosphate baking powder

or

3 t. combination baking powder

$\frac{1}{2}$ t. vanilla

Butter must be soft enough to blend with other ingredients. Allow batter to stand at room temperature until soft, or cream butter until plastic and light. Do *not* melt the butter.

Place all ingredients in mixing bowl. Do not beat eggs. Beat mixture for about 5 minutes or until batter is light and smooth. Pour into greased cake pan, and if tartrate or phosphate baking powder was used, bake in moderate oven (350° F.) for 20 minutes; increase temperature to 375° F. for about 20 minutes longer or until done. If combination powder was used bake in oven at 300° F. for 20 minutes, then increase to 375° F.

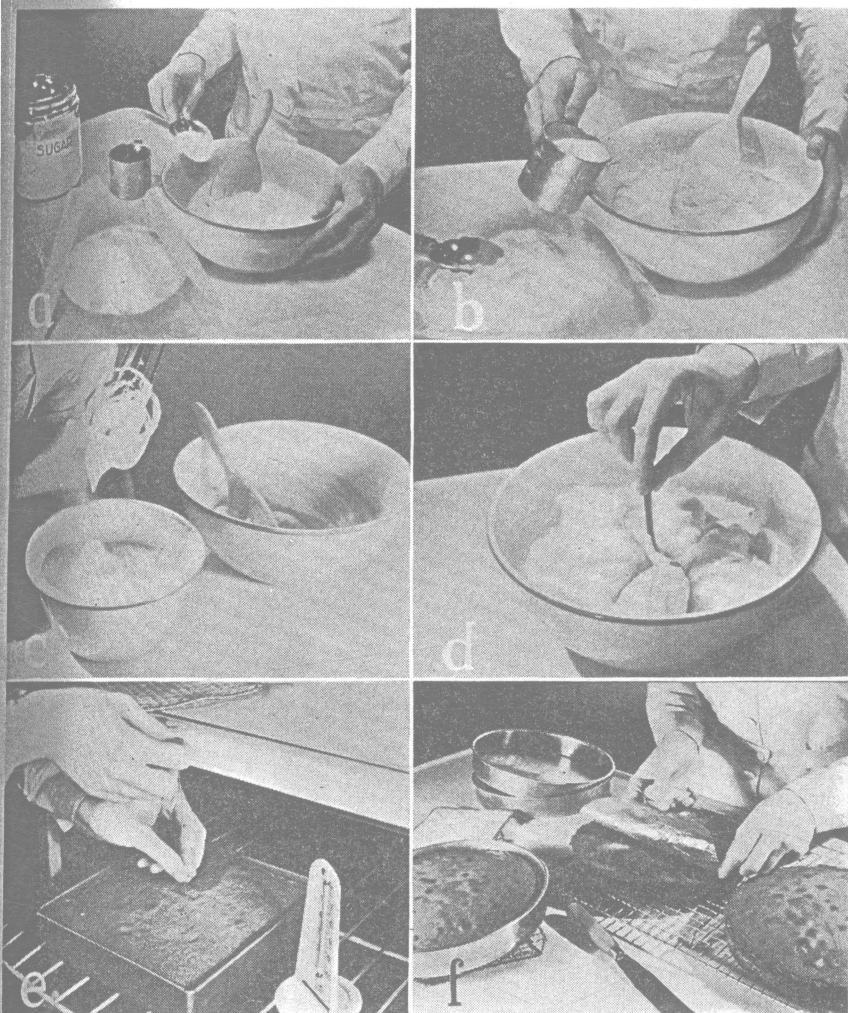


Fig. 14.—Steps in the conventional method for mixing butter cake—

- a. Cream the sugar and fat together.
- b. Combining liquid and dry ingredients alternately.
- c. Beating the egg white to proper stiffness.
- d. Cutting and folding the egg white into batter.
- e. Testing the cake.
- f. Cooling the cake before frosting.

PLAIN STANDARD CAKE

(Conventional Method)

$\frac{1}{3}$ c. butter*	$\frac{1}{4}$ t. salt	2 c. cake flour
1 c. sugar	$\frac{2}{3}$ c. milk	3 t. tartrate or phosphate baking powder
2 eggs	$\frac{1}{2}$ t. vanilla	or 2 t. combination baking powder

Cream butter, gradually add sugar, and continue creaming; add extract and blend well, then add unbeaten egg yolks and beat until mixture is very light. Sift dry ingredients together. Add 1 heaping tablespoon of dry ingredients and stir gently until flour is partially moistened, then stir for about

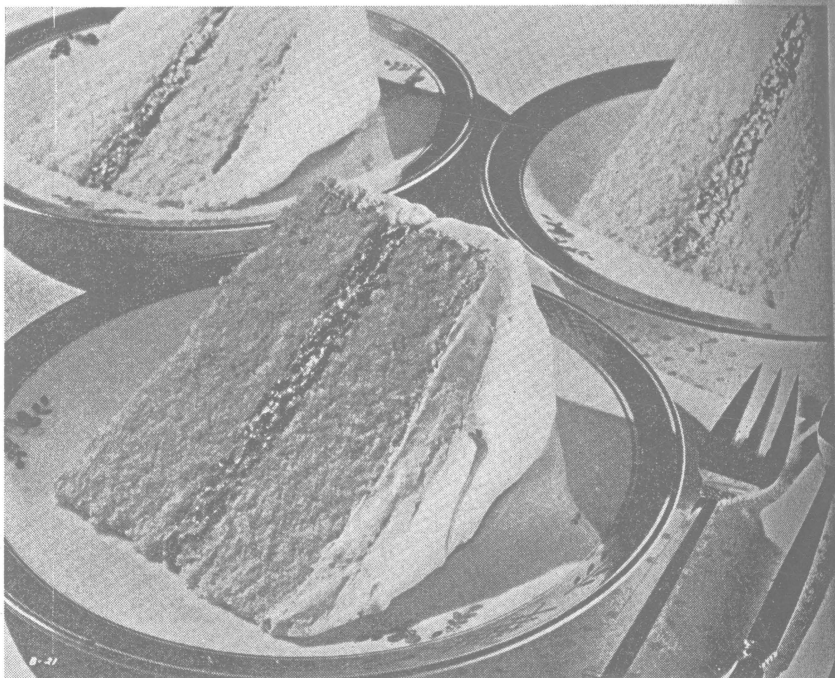


Fig. 15.—Careful manipulation as shown in Fig. 14 and watchful baking produce a cake like this.

$\frac{1}{2}$ minute. Add 2 tablespoons milk and stir about five revolutions. Continue with dry and liquid ingredients until all are added. Quickly beat egg whites (see page 34 on beating egg whites), add them to batter, and stir gently until the mixture can be beaten without spattering; then stir quickly for about $\frac{1}{2}$ minute. Pour into greased cake pan and bake as for quick mixer cake.

Variations

1. Bake as cup cakes. Fill muffin pans one-half or two-thirds full. Frost as desired. (See page 37 for frostings.)
2. Add $\frac{3}{4}$ c. finely chopped nuts.
3. Add $\frac{1}{2}$ to 1 c. raisins.

4. Add $1\frac{1}{2}$ squares chocolate, melted and cooled. Reduce flour to $1\frac{7}{8}$ c.
5. Add to dry ingredients:

1 t. cinnamon	}	This amount of spice gives a lightly spiced cake
$\frac{1}{2}$ t. cloves		
$\frac{1}{2}$ t. nutmeg		
6. Add 1 T. grated orange rind to cake mixture instead of vanilla. Frost cakes with uncooked orange frosting. (See page 40.)

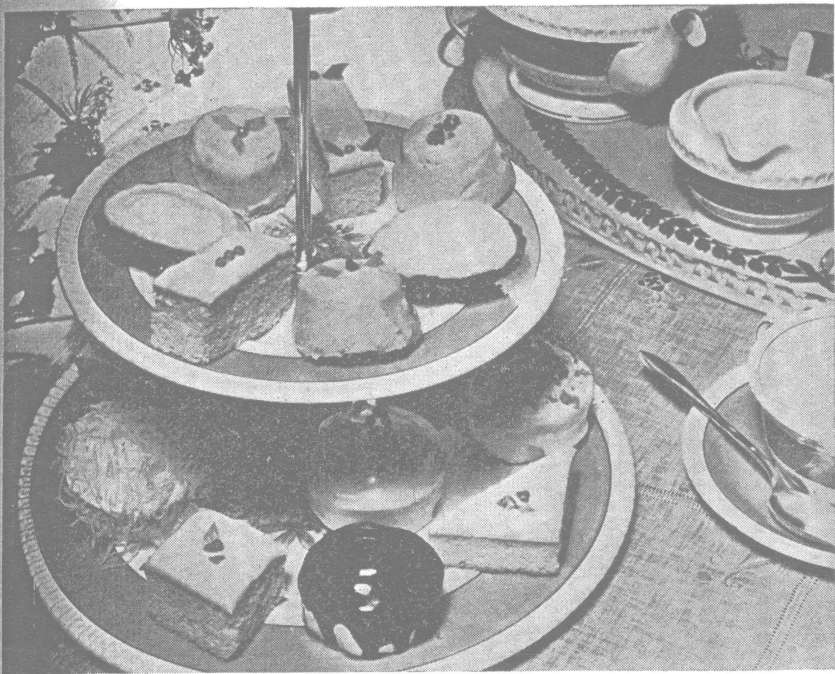


Fig. 16.—Pleasing variations in baking, cutting, and decorating small cakes.

UPSIDE-DOWN CAKE

These cakes may be plain butter cakes or sponge cakes. The cake batter is poured over the butter, fruit, sugar mixture. For a pan about 9 inches square use:

- | | |
|------------------------------------|--|
| 4 T. melted butter | 1 c. mixed diced fruits |
| $\frac{1}{2}$ c. light brown sugar | $\frac{1}{2}$ c. coarsely chopped nuts |

Candied pineapple, cherries, and almonds or English walnuts make a good combination. Canned fruit, if used, should be very well drained. If moist with juice the layer of cake in contact with the fruit will be soggy.

When the cake is baked, it is turned upside-down on cake rack. The fruit mixture is then on top of cake. Sections of cake are usually served with whipped cream.

WHITE CAKE

$\frac{2}{3}$ c. butter	$\frac{1}{4}$ t. salt
2 c. sugar	$\frac{2}{3}$ t. lemon extract
1 c. milk	$1\frac{1}{3}$ t. vanilla
$3\frac{1}{2}$ c. flour	Whites of 6 eggs
5 t. baking powder or 4 t. combination powder	

Cream fat, gradually add sugar and continue creaming, add ingredients and 2 to 3 tablespoons liquid ingredients alternately, stirring about $\frac{1}{2}$ minute or less after flour additions and about five or six revolutions after liquid. Beat egg whites quickly (see page 34 on beating egg whites), add them to batter, and stir gently until mixture can be beaten without curdling, then stir quickly for about $\frac{1}{2}$ minute. Pour into greased cake pan or layer pans and bake as for plain standard cake. Use any desired frosting.

FUDGE CAKE

2 c. sugar	$1\frac{1}{2}$ c. milk
$\frac{1}{4}$ c. butter	2 t. vanilla
2 eggs	2 t. baking powder (any type)
4 squares chocolate melted and cooled	2 c. cake flour

Cream butter, add sugar gradually, and continue creaming. Add egg yolks and beat well, then add chocolate, being sure it is cool. Sift dry ingredients together and alternately add flour and milk. Because of the consistency of the batter it is better to add all of flour while adding about two-thirds of liquid. Thin the batter with balance of liquid at the end. Beat egg whites and add quickly to mixture. Bake in two layers or one sheet in moderate oven (350° F.). Frost with cooked or uncooked frosting (see page 37).

CHOCOLATE CAKE

$1\frac{1}{2}$ c. sugar	1 t. soda
$\frac{1}{2}$ c. butter	2 c. flour
3 eggs	$\frac{1}{2}$ t. vanilla
1 c. milk	$\frac{1}{2}$ t. lemon extract
2 squares chocolate (shaved fine)	

Make chocolate paste by slowly heating chocolate with $\frac{1}{2}$ cup milk. Allow mixture to thicken but avoid scorching. Cool mixture.

Cream butter, add sugar gradually, then add the eggs, one at a time, unbeaten, and beat well after each addition of egg. Add chocolate paste for flavoring. Sift dry ingredients together. Alternate dry ingredients and remaining liquid. Bake in two layers. Frost with cooked or uncooked chocolate frosting or white boiled or marshmallow frosting (see page 37 for frostings).

DEVIL'S FOOD CAKE

Part I

4 squares chocolate, shaved fine	$\frac{1}{2}$ c. sweet milk
1 c. light brown sugar	

Place over low fire and stir until chocolate is melted and mixture thickened. Cool.

1 c. light brown sugar	1 t. soda
1 c. sweet milk	3 c. flour
1/2 c. butter	1 t. vanilla

Yolks of 3 eggs, or 2 whole eggs

Cream butter, add sugar, vanilla, and egg, and mix well. Sift dry ingredients together and add alternately with liquid. Combine Parts I and II. Bake in layers in moderate oven (350° F.).

1/2 c. light brown sugar	1/2 c. cream
1 square chocolate, shaved fine	1 T. butter

Boil 3 minutes. Beat until stiff enough to spread.

BROWN SUGAR CAKE

1/2 c. medium dark brown sugar	2 c. pastry flour
1/2 c. butter	1/4 t. salt
1/2 c. sour milk	2 c. chopped dates
1/2 t. soda	1/2 c. chopped nuts
2 t. baking powder (any type)	Grated rind of 1 lemon

Cream butter, and add sugar gradually, while creaming. Sift dry ingredients together and add alternately with milk. Add dates, nuts, and rind. Bake in square or rectangular pan in moderate oven (350° F.). Frost with uncooked orange frosting (see page 40).

SPICE CAKE

1 c. sugar	2 c. pastry flour
1/2 c. butter	1/2 c. raisins
2 eggs	1 t. cloves
1 c. sour milk	1 t. nutmeg
1 t. soda	2 t. cinnamon

Cream fat, and gradually add sugar; beat eggs and add, then mix thoroughly. Sift dry ingredients together. Alternately add dry and liquid ingredients. Add raisins. Bake in loaf or thick sheet in moderate oven (350° F.).

PRUNE CAKE

1 1/2 c. sugar	1/2 t. salt
3/4 c. butter	1 1/8 t. cinnamon
2 eggs	2 t. cloves
1 1/2 t. soda	2 t. baking powder (any type)
1 1/3 c. prunes	3 c. flour
1 1/3 c. buttermilk or sour milk	

Soften prunes by steaming, and cut fine. Cream fat, add sugar gradually and continue creaming. Add beaten eggs and mix well. Sift dry

ingredients together. Alternate with dry and liquid ingredients and mix thoroughly. Stir in fruit. Bake in moderate oven (350°F.).

DARK FRUIT CAKE (3 LOAVES)

1 pound each of butter, sugar, flour	Juice 1 lemon
10 eggs	2 t. cinnamon
2 pounds currants	2 t. mace
2 pounds raisins	1 t. cloves
1 pound citron, cut fine	1 t. nutmeg
2 t. each of lemon and orange extract	$\frac{1}{2}$ c. molasses



Fig. 17.—Attractive forms for fruit cakes.

Cream fat, gradually add sugar, and continue creaming, then add beaten eggs, and beat well. Add extracts and molasses. Sift dry ingredients together and add. Stir in mixed fruits.

Fill the loaf pans about two-thirds full, and tie waxed paper over tops of pans. Steam cakes $1\frac{1}{2}$ hours. Remove paper and bake in slow oven (300°F.) for about 1 hour.

When cool, wrap cakes in waxed paper and store in tightly closed cake box or earthenware jar.

Cakes may be baked for the whole period if desired.

WHITE FRUIT CAKE

1 pound flour	10 eggs
1 pound sugar	Juice 1 lemon
1 pound butter	$\frac{1}{2}$ t. cinnamon
1 pound raisins	$\frac{1}{2}$ t. mace
1 pound citron, cut fine	$\frac{1}{2}$ t. salt

Mix and bake as dark fruit cake.

HONEY POUND CAKE

1/2 c. shortening	2 c. pastry flour
1/2 c. sugar	1/2 t. soda
1/4 c. honey	1/2 t. cinnamon
4 eggs	1/2 t. ginger

Cream fat and sugar together. Add honey and well beaten egg yolks. Sift dry ingredients together and add to mixture. Fold in stiffly beaten egg whites and beat 5 minutes. Pour into warm tin with high sides. Bake in moderate oven (350° F.).

CARAMEL CAKE

Caramel Sirup.—Heat 1/2 cup sugar in pan over slow fire until melted and medium dark brown in color. Pour 1/4 cup boiling water over sirup. Continue to heat until lumps are dissolved. Cool.

1/2 c. sugar	3 c. cake flour
1/2 c. butter	1/4 t. salt
3 eggs	1 c. water
1 t. vanilla	4 t. phosphate or tartrate baking powder or
2 T. caramel sirup	3 t. combination powder

Cream butter, gradually add sugar and continue creaming, then add egg yolks and beat well. Add sifted dry ingredients alternately with water, adding vanilla and caramel sirup while stirring. Add beaten egg whites quickly. Bake in two layers. Spread with caramelized sugar frosting (see page 37).

SOUR CREAM CAKE

1 c. thick sour cream (about 18 or 20% fat)	
2 c. cake flour or 1 3/4 c. family flour	
1 c. sugar.	1/2 t. soda
2 eggs	1/4 t. salt
1 t. vanilla	2 t. baking powder (any type)

Sift dry ingredients together. Mix cream, sugar, and egg yolks and beat with a rotary beater until very light. Add dry ingredients and flavoring, then fold in egg whites which have been beaten stiff but not dry (see page 34 on beating eggs). Bake in a thick sheet in greased pan. Use moderate oven (350° F.) for 35 to 40 minutes.

Variations:

Spice cake — Add to dry ingredients:

1 t. cinnamon	1 t. nutmeg
1/2 t. cloves	

Fruit-nut cake — Add:

1/2 c. chopped dates or raisins	1/2 c. chopped nuts
1/2 T. grated orange rind	

SPONGE CAKES

The three most important factors which contribute to success in sponge cakes are:

- Proper beating of eggs.
- Retention of air while folding in the dry ingredients.
- Low temperature of baking (250-300°F.)

Beating of Eggs

Since beaten egg whites are used for so many cookery operations, the proper beating of egg whites becomes a very important matter.

The whipping quality of eggs may be affected by uncontrollable factors such as season. Eggs produced in April and September apparently whip to a larger volume than midsummer eggs. However, many factors affecting the whipping of eggs are subject to human control. Cold eggs do not whip so quickly or to so large volume as eggs at approximately room temperature. Watery egg whites whip to larger volume than very thick egg whites. Old eggs or storage eggs have more watery whites than newlaid eggs, although the latter vary somewhat in firmness of whites. Fresh thick egg whites may be diluted with water to yield larger volume when beating. About 2 level spoons of water to a cup of egg whites is a satisfactory amount of water to use.

The type of egg beater used, as well as the fineness of the wires or blades of the beater, affect the size of air cells obtained and the ease with which fine cells are obtained. Thick wires or blades do not divide egg whites as easily as fine wires, and the resulting air cells are therefore larger, although all cells will become smaller with longer beating, regardless of type of beater. Egg whisks sometimes give a larger volume than rotary types of beaters, but the cells are also larger.

Overbeating of eggs appears to be a common practice. Beaten egg whites should not have a dry, lumpy appearance, but should retain a shiny, smooth surface. The following tests may be of assistance in determining the proper stiffness of beaten egg whites:

1. The mass should flow very slowly if the bowl is partially inverted.
2. As the egg beater is withdrawn from the mass, "tails" or peaks should form.
3. Air cells should be as fine and of as even size as can be obtained without beating to the dry state.

Overbeaten egg whites are sufficiently coagulated during the beating process to cause the cell walls to break rather than stretch as expansion occurs during cooking. As cells break, air is lost, resulting in smaller volume of the cooked product. Since the desire to attain large volume and a light, spongy quality are the chief reasons for adding air to egg whites, it is obvious that one should learn to judge the degree of beating which will accomplish one's purpose.

Whole eggs can be beaten much stiffer than the average person thinks if beating is continued for a long enough time. Due to the presence of the yolk of the yolk there is little danger of overbeating it, as the high fat content of

the yolk decreases the viscosity of the white and makes impossible the incorporation of as much air as egg whites alone will hold.

Egg yolks cannot be beaten as stiff as whole eggs or egg whites. They become yellow colored and thick when well beaten.

Methods for Mixing Sponge Cakes

In white sponge or angel food cake only the whites of eggs are used. After beating the whites to a foam, salt and cream of tartar are sifted over the surface and water (if used) and flavoring added. The whites are then beaten to a desired stiffness. The sugar and then the flour are carefully and gradually folded into the egg whites.

Yellow sponge may be made by several methods:

Whole egg method —

Beat whole egg as stiff as it can be beaten. Fold or beat in sugar, lemon juice and rind. Fold in flour.

Separated egg methods:

a. Beat the yolks. Add the sugar, lemon juice and rind, the water (if used), and the salt. Beat as stiff as possible. Fold in the flour gradually. Beat the egg whites stiff but not dry. Fold whites into yolk mixture.

b. Add lemon juice, lemon rind, salt, and water to the sugar. Mix well. Add unbeaten egg yolks and beat until as stiff as possible. Fold in the flour. Beat the egg whites stiff but not dry. Fold whites into yolk mixture.

c. Sirup method — Cook sugar and $\frac{1}{2}$ cup water until it threads (just under soft ball stage). Pour sirup over beaten egg whites and beat as for frosting. Beat yolks, add lemon juice, lemon rind, and salt, and beat until stiff as possible. Combine yolk and white mixtures carefully. Fold in flour gradually.

d. Hot water sponge.—Beat egg yolks as stiff as possible. Add half the sugar in about four portions, beating well after each addition of sugar. Add boiling water a tablespoon at a time, and beat about $\frac{1}{2}$ minute after each addition of water. Allow mixture to cool. When cool, beat the yolk mixture again until very stiff. Add the remainder of the sugar, the flavoring, and the flour by folding them into the mixture. Fold in egg whites which have been beaten with the salt and cream of tartar.

When eggs are high in price modified or cheapened sponge cakes can be made in which hot water or milk, baking powder, and increased flour are used with a smaller number of eggs.

ANGEL FOOD CAKE

1 c. egg whites	1 $\frac{1}{4}$ c. granulated sugar
2 T. cold water	1 c. cake flour
1 t. cream of tartar	1 t. flavoring
$\frac{1}{4}$ t. salt	

Place egg whites in the bowl which is to be used for mixing. Have eggs room temperature (70° F.). Beat the egg whites about 20 revolu-

tions with a rotary beater. Add water and flavoring, and sift cream of tartar and salt over surface of egg whites. Continue beating until stiff but not dry (see page 34 on beating of eggs). Sift sugar about 2 tablespoons at a time over surface of egg whites and fold in gently with spatula or thin metal spoon. Use a total of approximately 60 strokes to add the sugar. Add flour in a similar manner, using a total of about 90 strokes for folding in flour. The dry ingredients must, of course, be thoroughly blended with the egg white.

The number of strokes suggested is approximate only and will vary even for the same individual. Over-manipulation tends to cause too much loss

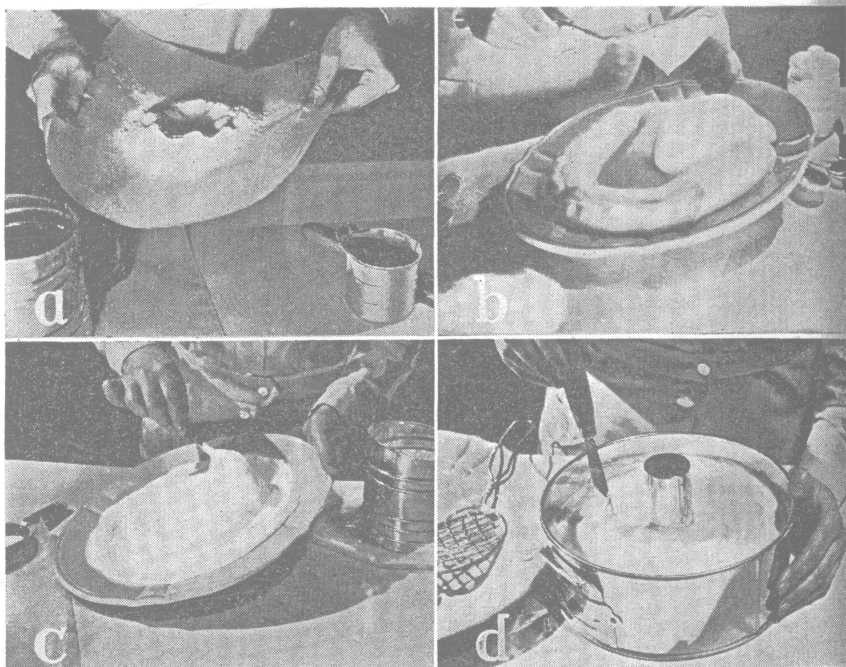


Fig. 18.—Method for mixing angel food cake—

- | | |
|--------------------------------------|--|
| a. Sift the flour carefully. | c. Fold in sugar, then flour. |
| b. Beat egg white stiff but not dry. | d. Fill into ungreased pan and level off batter. |

of air, resulting in a cake which is compact and of small volume. Too little manipulation is one cause of coarse grain. Bake in ungreased pan for about 1 hour at 250 to 300° F.

Sponge Cake

- | | |
|---|-------------------|
| 6 eggs | 1½ T. lemon juice |
| 1 c. sugar | 1½ T. water |
| 1¼ c. cake flour | ¼ t. salt |
| 1 T. grated lemon rind (lightly measured) | |

Make by methods 1 or 2 a, b, or c, page 35. Bake in an ungreased pan for about 1 hour in slow oven (250 to 300° F.).

MODIFIED SPONGE CAKE

1 c. sugar	$\frac{1}{4}$ t. salt
3 eggs	$1\frac{1}{2}$ t. tartrate or phosphate baking powder
1 c. cake flour	or 1 t. combination baking powder
2 t. lemon juice	6 T. hot water or milk

Beat eggs as stiff as possible, gradually add sugar, and continue beating. Add lemon juice and beat well. Fold in dry ingredients which have been sifted together. Add hot liquid all at once and very quickly and thoroughly blend with batter. Bake as for regular sponge cake.

FROSTING

BOILED FROSTING

$1\frac{1}{2}$ c. sugar	2 egg whites
$\frac{2}{3}$ c. boiling water	1 t. vanilla
$\frac{1}{8}$ t. cream of tartar	

Boil sugar, water, and cream of tartar until it "hairs" or "threads" from spoon. If tested in cold water, the mass can barely be collected into a soft ball. If a thermometer is used cook to a temperature of 234° F. Pour slowly over beaten egg whites, beating continuously as sirup is added. Continue beating until stiff enough to spread. Add vanilla while beating.

MARSHMALLOW FROSTING

Cut $\frac{1}{4}$ to $\frac{1}{2}$ pound marshmallows into small pieces. Add to boiled frosting after adding sirup. The heat of the mixture will melt the marshmallows, giving an even consistency. If a lumpy appearance is desired, add marshmallows after the frosting is cool.

SEVEN-MINUTE FROSTING

$1\frac{1}{2}$ c. sugar	1 t. vanilla
5 T. water	2 egg whites (unbeaten)
$\frac{1}{2}$ T. white corn sirup	

Place sugar, water, egg whites, and corn sirup in top of double boiler. Beat with rotary beater until mixed, then place over boiling water in lower part of double boiler. Keep the water boiling during the whole cooking process. Beat continuously until stiff enough to hold its form when beater is withdrawn. This will require about 7 minutes. Add vanilla and beat until stiff enough to spread.

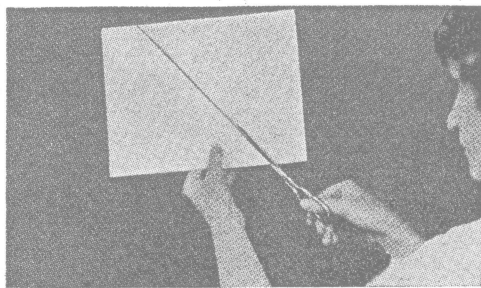
CARAMELIZED SUGAR FROSTING

Use 2 tablespoons caramelized sugar sirup instead of vanilla in seven-minute frosting.

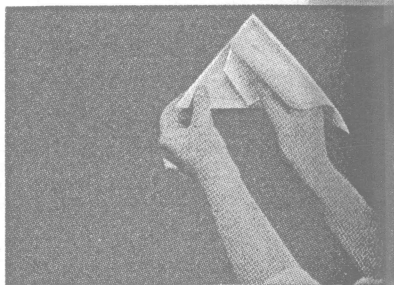
CHOCOLATE SEVEN-MINUTE FROSTING

Add to seven-minute frosting 3 squares of melted bitter chocolate with vanilla (when removed from fire).

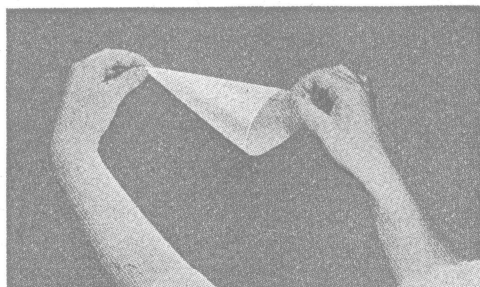
STEPS IN DECORATING A CAKE



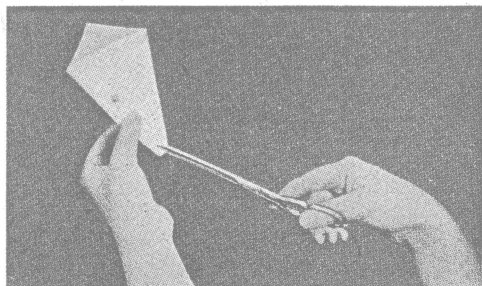
Step 1. Cut triangles from heavy brown or glazed white paper.



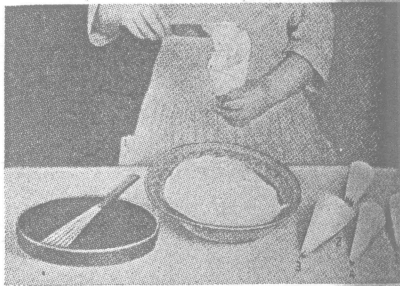
Step 2. Fold the triangle to make a cone.



Step 3. Pin the paper near top to hold it firm; point of cone should be sharp.

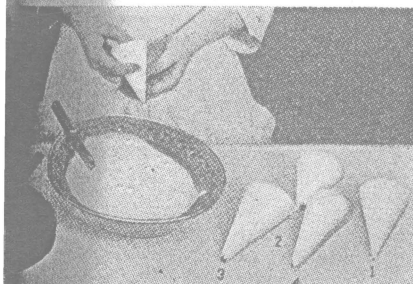


Step 4. Cut off point, then shape tip to desired pattern.



Step 5. Cones shown have tips of different designs and sizes.

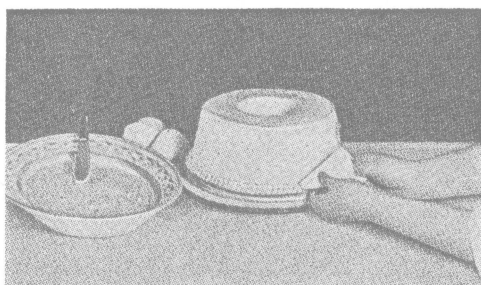
STEPS IN DECORATING A CAKE (Continued)



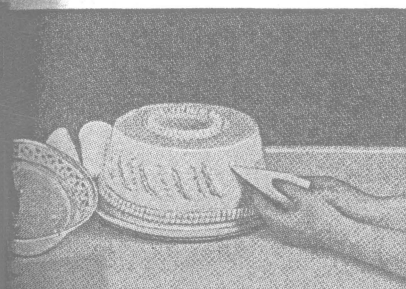
Step 6. Close the cone by folding sides of top into center, and then center down.



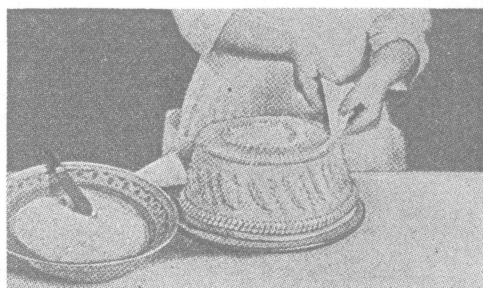
Step 7. Starting the bottom edge. Hold cone with right hand, and guide and press with left hand.



Step 8. Showing position of tube and hands for dots or individual rosettes.



Step 9. Showing position of hands for side work.



Step 10. Decorating top of cake. Note position of hands and tube.

TWICE-COOKED FROSTING

1½ c. granulated sugar	2 egg whites
¾ c. water	1 t. flavoring extract
1 T. corn sirup	f.g. salt

Boil sugar, corn sirup, salt, and water without stirring to a soft ball stage (237° F.). Pour slowly over beaten egg whites, stirring continuously. Add flavoring and beat until smooth. Put bowl into pan of hot water, beating continuously until frosting grates slightly on bottom of bowl and holds its shape. Spread on cake.

Variations:

A thin layer of melted chocolate may be put on after white frosting has set slightly.

Brown sugar may replace white sugar. Cook sirup to a slightly firmer soft ball than when white sugar is used.

Sprinkle grated cocoanut or chopped nuts over the top. Or arrange whole nut meats on top of frosting.

Two squares (ounces) of chocolate may be cooked with sirup.

FUDGE FROSTING

1½ c. sugar	1½-2 squares (ounces) bitter chocolate
½ c. milk	f.g. salt
2 T. butter	½ t. vanilla

Combine ingredients except vanilla and butter and boil until the sirup will barely form a soft ball when dropped into cold water (235-238° F.). Remove from fire, cool until lukewarm, add vanilla and butter, and beat until creamy and stiff enough to spread.

CARAMEL FROSTING

2 c. light brown sugar	f.g. salt
⅔ c. water or milk	2 T. butter
	½ t. vanilla

Cook as for fudge frosting except that caramel frosting is cooked to a slightly higher temperature. The sirup can be collected into a soft ball when dropped into cold water.

CHOCOLATE BUTTER FROSTING

4 T. butter	1 T. milk or cream
1½ squares bitter chocolate	½ t. vanilla
f.g. salt	2 c. sifted confectioners' sugar

Cream butter, add half of sugar, and cream well. Add salt, melted chocolate and vanilla. Add remainder of sugar and milk or cream until of right consistency to spread.

ORANGE BUTTER FROSTING

3 T. butter	⅛ t. salt
1 T. grated orange rind	1 egg yolk
4 T. orange juice	3 c. (or less) sifted confectioners' sugar

Cream butter, add egg yolk and mix well. Add about half of sugar gradually stirring well after each addition of sugar. Add remainder alternately with orange juice and rind which have been mixed.